Access DB# _____ 24500 meg

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Mike Meller Examiner # : 69404 Date: 9/6/00
Art Unit: 1651 Phone Number 308-4230 Serial Number: 09/484,572
Mail Box and Bldg/Room Location: 11th Floor 10B13 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Hypericin & Hypericum extract...

Inventors (please provide full names): Jacqueline J. Sham, Xi-chen Wu, Peter K.T. Pang, Lei Ling

Earliest Priority Filing Date: 7/9/99

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search compound claims 2, 5-7, 18-21

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* For Susan Hanley *

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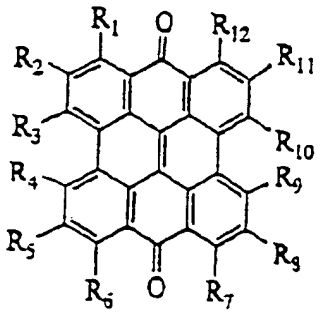
STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Hanley	NA Sequence (#)	STN
Searcher Phone #:	AA Sequence (#)	Dialog
Searcher Location:	Structure (#) 1	Questel/Orbit
Date Searcher Picked Up:	Bibliographic	Dr.Link
Date Completed: 9/12	Litigation	Lexis/Nexis
Searcher Prep & Review Time: 100 min	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW/Internet
Online Time: 120 min	Other	Other (specify)

PTO-1590 (1-2000)

What is claimed is:

1. A method of treating a health disorder treatable with a T-type calcium channel blocker in an animal in need of such a treatment, comprising administering an effective amount of an active agent to said animal, wherein said active agent is *Hypericum perforatum*, a *Hypericum* extract, an extract of a species of the *Hypericum* genus other than *Hypericum perforatum*, a *Hypericum* constituent, a hypericin derivative or a hypericin analog, with the proviso that when the active agent is *Hypericum perforatum* or *Hypericum* extract, said health disorder is not depression or migraine headache.

2. The method of claim 1, wherein said hypericin derivative is a compound of formula II,



II

wherein

R_1 is H, OH, OR or OCOR;

R_2 is H, R, F, Cl, Br, I or SO_3H;

R_3 is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_4 is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_5 is H, R, F, Cl, Br, I or SO_3H;

R_6 is H, OH, OR or OCOR;

R_7 is H, OH, OR or OCOR;

R_8 is H, R, F, Cl, Br, I or SO_3H;

R_9 is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_{10} is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_{11} is H, R, F, Cl, Br, I or SO_3H;

R_{12} is H, OH, OR or OCOR; and

R is an optionally substituted C_1-C_{30} alkyl group;

with the proviso that the following compounds are excluded

(A) a compound of formula II, wherein R_1, R_3, R_4, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, and R_9 and R_{10} are methyl;

(B) a compound of formula II, wherein R_1, R_9, R_{10}, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, and R_3 and R_4 are methyl;

(C) a compound of formula II, wherein R_1, R_3, R_4, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_9 is methyl, and R_{10} is CH_2OH;

(D) a compound of formula II, wherein R_1, R_3, R_4, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_9 is CH_2OH and R_{10} is methyl;

(E) a compound of formula II, wherein R_1, R_9, R_{10}, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_3 is methyl, and R_4 is CH_2OH; and

(F) a compound of formula II, wherein R_1, R_9, R_{10}, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_3 is CH_2OH and R_4 is methyl.

3. The method of claim 1, wherein the health disorder treatable with T-type calcium channel blockers is depression, chronic heart failure, congestive heart failure, ischaemc condition, arrhythmia, angina pectoris, hypertension, hypoinsulinemia, hyperinsulinemia, diabete mellitus, hyperaldosteronemia, epilepsy, migraine headache, brain aging, a neurodegenerative disease or preterm labor.

4. The method of claim 1, wherein said *Hypericum* constituent is hypericin, pseudohypericin, hyperforin, ashyperforin, quercetin, quercitrin, isoquercitrin, hyperoside, rutin, amentoflavone or hyperin.

5. The method of claim 2, wherein R is a C_1-C_{30} alkyl group, optionally substituted with one to three substituents independently selected from hydroxy, alkoxy, acyloxy, carboxy, akoxycarbonyl, amino, alkylamino, dialkylamino, nitro or phenyl group or fluorine, chlorine, bromine or iodine atom.

6. The method of claim 5, wherein

R_1 is H, OH, OR or OCOR;

R_2 is H or R;

R_3 is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_4 is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_5 is H or R;

R_6 is H, OH, OR or OCOR;

R_7 is H, OH, OR or OCOR;

R_8 is H or R;

R_9 is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_{10} is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_{11} is H or R;

R_{12} is H, OH, OR or OCOR; and

R is an optionally substituted C_1-C_6 alkyl group.

7. The method of claim 6, wherein R is an optionally substituted methyl or ethyl group.

8. The method of claim 1, wherein said animal is a human.

9. The method of claim 1, wherein said active agent is a *Hypericum* extract.

10. The method of claim 9, wherein said effective amount is about 0.05 mg to 500 mg per kg body weight of said animal.

11. The method of claim 1, wherein said active agent is hypericin.

12. The method of claim 11, wherein said effective amount is about 0.0015 mg to 15 mg per kg body weight of said animal.

13. The method of claim 1, further comprising administering to said animal an additional active agent as described in claim 1.

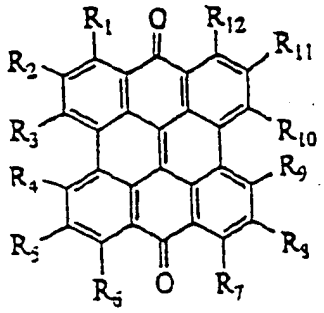
14. The method of claim 13, wherein one of the active agents administered is hypericin.

15. The method of claim 14, wherein another of the active agents administered is pseudohypericin.

16. The method of claim 14, wherein another of the active agents administered is hyperforin.

17. The method of claim 15, further comprising administering hyperforin to said animal.

18. A compound of formula II,



II

wherein

R_1 is H, OH, OR or OCOR;

R_2 is H, R, F, Cl, Br, I or SO_3H;

R_3 is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_4 is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_5 is H, R, F, Cl, Br, I or SO_3H;

R_6 is H, OH, OR or OCOR;

R_7 is H, OH, OR or OCOR;

R_8 is H, R, F, Cl, Br, I or SO_3H;

R_9 is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_{10} is H, R, OH, OR, OCOR, CH_2OH, CH_2OR, CH_2OCOR, COOH or COOR;

R_{11} is H, R, F, Cl, Br, I or SO_3H;

R_{12} is H, OH, OR or OCOR; and

R is an optionally substituted C_1-C_{30} alkyl group;

with the proviso that the following compounds are excluded

(A) a compound of formula II, wherein R_1, R_3, R_4, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, and R_9 and R_{10} are methyl;

(B) a compound of formula II, wherein R_1, R_9, R_{10}, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, and R_3 and R_4 are methyl;

(C) a compound of formula II, wherein R_1, R_3, R_4, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_9 is methyl, and R_{10} is CH_2OH;

(D) a compound of formula II, wherein R_1, R_3, R_4, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_9 is CH_2OH and R_{10} is methyl;

(E) a compound of formula II, wherein R_1, R_9, R_{10}, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_3 is methyl, and R_4 is CH_2OH;

(F) a compound of formula II, wherein R_1, R_9, R_{10}, R_6, R_7 and R_{12} are OH, R_2, R_5, R_8 and R_{11} are H, R_3 is CH_2OH and R_4 is methyl.

19. The compound of claim 18, wherein R is a C_1-C_{30} alkyl group, optionally substituted with one to three substituents independently selected from hydroxy, alkoxy, acyloxy, carboxy, akoxycarbonyl, amino, alkylamino, dialkylamino, nitro or phenyl group or fluorine, chlorine, bromine or iodine atom.

20. The compound of claim 18, wherein

R_1 is H, OH, OR or OCOR;

R_2 is H or R;

R_3 is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_4 is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_5 is H or R;

R_6 is H, OH, OR or OCOR;

R_7 is H, OH, OR or OCOR;

R_8 is H or R;

R_9 is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_{10} is H, OH, OR, OCOR, CH_2OH, CH_2OR or CH_2OCOR;

R_{11} is H or R;

R_{12} is H, OH, OR or OCOR; and

R is an optionally substituted C_1-C_6 alkyl group.

21. The compound of claim 20, wherein R is an optionally substituted methyl or ethyl group.

22. The method of claim 1, wherein said extract of a species of the *Hypericum* genus other than *Hypericum perforatum* is an extract of a species selected from the group consisting of *H. majus, H. formosum, H. calycinum, H. X moseranum, H. irazuense, H. reductum, H. patulum, H. mutilum, H. crux-andreae, H. hypericoides, H. densiflorum, H. prolificum, H. frondosum, H. cumilicola, H. anagalloides, H. androsaemum, H. tetrapterum, H. hirsutum, H. olympicum, H. hyssopifolium, H. elongatum* and *H. erratum*.